Managing the Information Systems Project

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- Focus of project management
  - To ensure that information system projects meet customer expectations
    - Delivered in a timely manner
    - Meet functional constraints and requirements
- Project Manager
  - Responsible for:
    - Project initiation
    - Planning
    - Execution
    - Closing down

Managing the Information Systems Project

- Project Manager activities include:
  - Management
  - Leadership
  - Technical
  - Problem solving
  - Conflict management
  - Customer relations
  - Team management
  - Risk and change management

Project Management Process

- **Project definition:**
  - Planned undertaking of related activities to reach an objective that has a beginning and an end
- **Four Phases:**
  - Initiation
  - Planning
  - Execution
  - Closing down

1- Initiating the Project

- Establish project initiation team
- Establish relationship with customer
- Establish project initiation plan
- Establish management procedures
- Establish project management environment and workbook

2- Planning the Project

- Describe project scope, alternatives and feasibility.
- Divide the project into manageable tasks
- Estimate resources and create a resource plan
- Develop a preliminary schedule (Gantt and PERT charts)
- Develop a communication plan among customers, team members and management
- Determine project standards and procedures and specify how output are tested and produced

2- Planning the Project

- Identify and assess risk
  - Identify sources of risk
  - Estimate consequences of risk
- Create a preliminary budget
- Set a Baseline Project Plan
  - Estimate of project's tasks and resources

3- Executing the Project

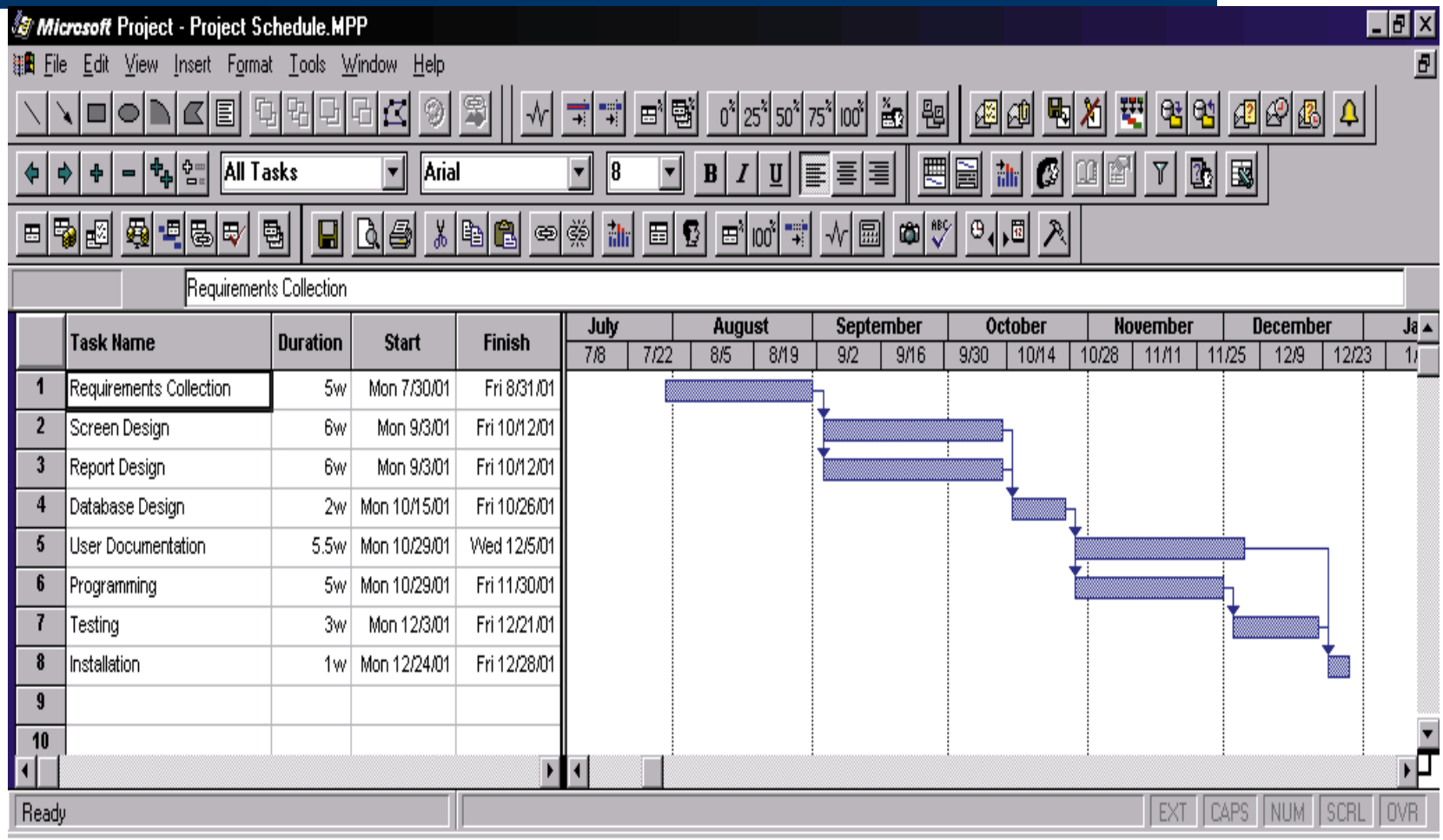
- Execute Baseline Project Plan
  - Acquire and assign resources
  - Train new team members
  - Keep project on schedule
- Monitor project progress
  - Adjust resources, budget and/or activities
- Manage changes to Baseline Project Plan
  - Changes in completion dates
  - Changes in personnel
  - New activities
- Maintain project workbook
- Communicate project status

4- Closing Down the Project

- Termination
  - Types of termination
    - Natural
      - Requirements have been met
    - Unnatural
      - Project stopped
  - Documentation
  - Personnel Assessment

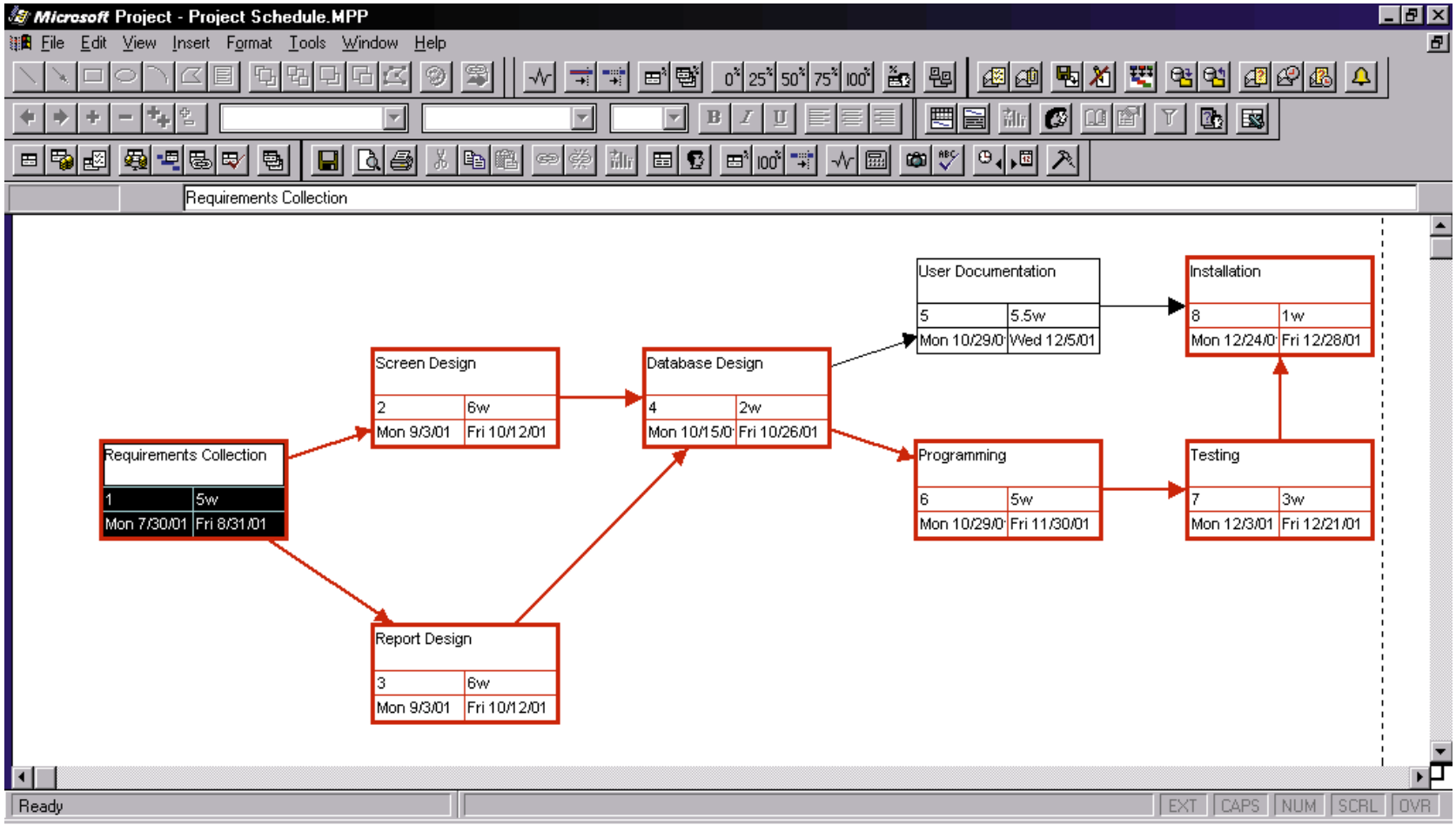
Representing and Scheduling Project Plans

- Gantt Charts
  - Useful for depicting simple projects or parts of large projects
  - Show start and completion dates for individual tasks



PERT Charts

- Show order of activities



Comparison of Gantt and PERT Charts

- **Gantt**
  - Visually shows duration of tasks
  - Visually shows time overlap between tasks
  - Visually shows slack time
- **PERT**
  - Visually shows dependencies between tasks
  - Visually shows which tasks can be done in parallel
  - Shows slack time by data in rectangles

Estimating Time

- Project is broken down into phases.
- Further project is broken down into tasks or activities.
- Finally project is broken down into steps or even smaller units.
- Time is estimated for each task or activity.
- Most likely, pessimistic *p*, and optimistic *o* estimates for time may be used.

$$ET=(o+4r+p)/6$$

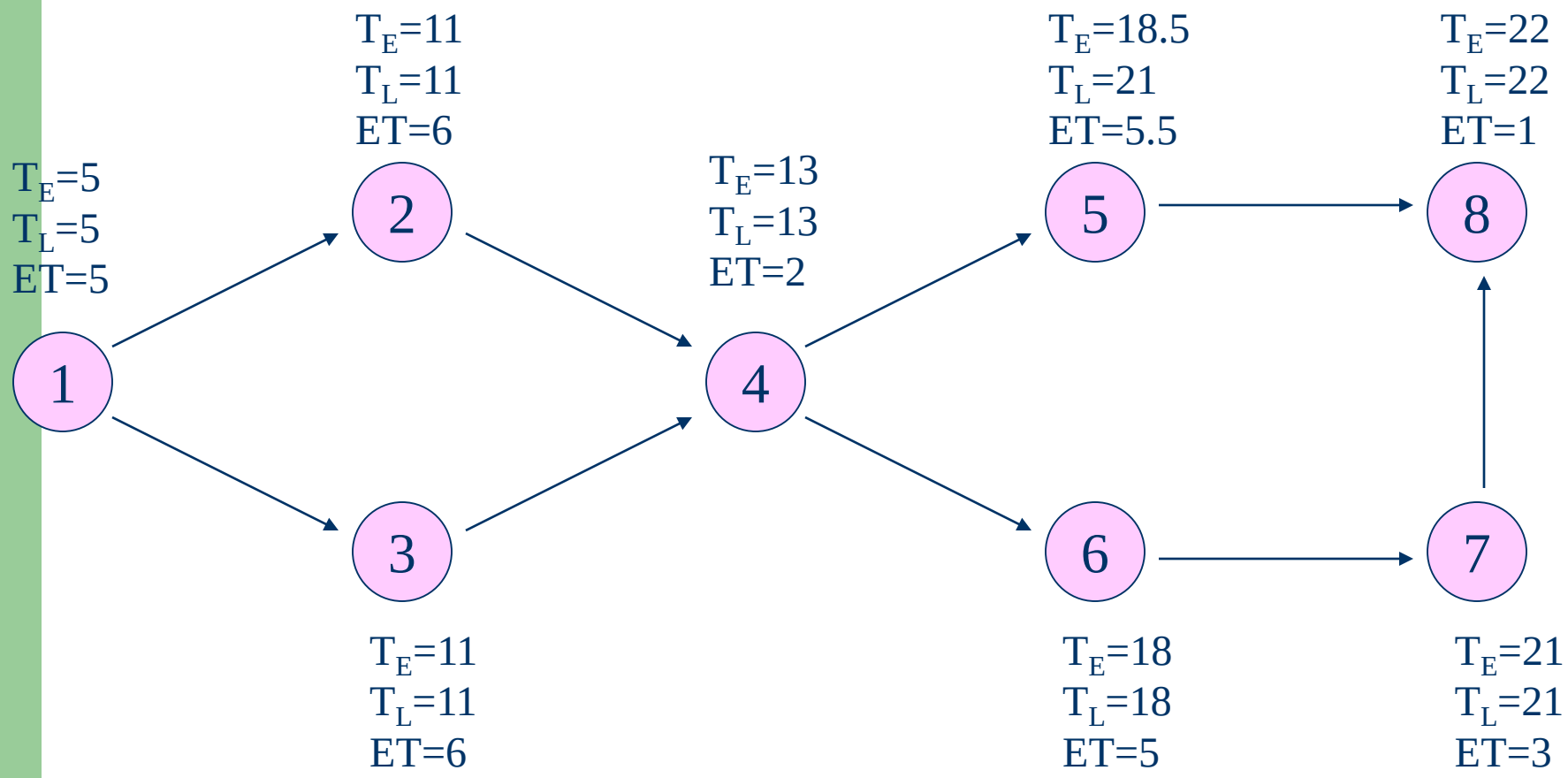
Estimated Time Calculation

ACTIVITY	TIME ESTIMATE			EXPECTED TIME (ET)
	o	*r*	*p*	
1. Requirements Collection	1	5	9	5
2. Screen Design	5	6	7	6
3. Report Design	3	6	9	6
4. Database Design	1	2	3	2
5. User Documentation	3	6	6	5.5
6. Software Programming	4	5	6	5
7. Testing	1	3	5	3
8. Installation	1	1	1	1

Sequence of Activities

ACTIVITY	PRECEDING ACTIVITY
1. Requirements Collection	_
2. Screen Design	١
3. Report Design	١
4. Database Design	2,3
5. User Documentation	4
6. Software Programming	4
7. Testing	6
8. Installation	5,7

PERT Chart


T_E=5
T_L=5
ET=5
1
T_E=11
T_L=11
ET=6
2
T_E=11
T_L=11
ET=6
3
T_E=13
T_L=13
ET=2
4
T_E=18.5
T_L=21
ET=5.5
5
T_E=18
T_L=18
ET=5
6
T_E=22
T_L=22
ET=1
8
T_E=21
T_L=21
ET=3
7

Critical Path

ACTIVITY	T_E	T_L	Slack time $T_L - T_E$	ON CRITICAL PATH
1	5	5	0	✓
2	11	11	0	✓
3	11	11	0	✓
4	13	13	0	✓
5	18.5	21	2.5	
6	18	18	0	✓
7	21	21	0	✓
8	22	22	0	✓

Project Failures

Project failures may be prevented by:

- Training.
- Experience.
- Learning why other projects have failed.